M E M O R A N D U M

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SUBJECT: Operational Position Statement for Sep 23, – Sep 29, 2014

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance (2008 LORS). The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and has evaluated the overall status of the water management system. Detailed reports are available at the SFWMD's Operational Planning internet page.

Recommendation to the USACE

For the period September 23rd, 2014 through September 29th, 2014, the SFWMD recommendation to the USACE is to follow the 2008 LORS release guidance to manage the Lake Okeechobee stage. The USACE is implementing a 7-day pulse release averaging 650 cfs at S-79 and no releases at S-80, which started 7 am on September 19th, 2014 and will end 7am September 26th, 2014. The current release prescribed by the 2008 LORS is measured at S-79 and requires that the Lake Okeechobee releases (at S-77) be reduced to account for any local runoff into the Caloosahatchee River (C-43) between S-77 and S-79. This accounting is performed on a daily basis. Over the past week, the lake stage had a moderate increase (by 0.19 feet) and is close to the line separating the lower and the middle thirds of the Low Sub-band. If stages rise into the middle third of the Low Sub-band, and there is a need to increase releases, SFWMD is recommending that they be implemented via a gradual transition.

2008 LORS Release Guidance (Part C): As of September 23rd, the Lake Okeechobee stage was very close to the line separating the lower and the middle thirds of the Low Sub-band and Part C of the 2008 LORS suggests "Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades Impacts".

Water levels throughout the WCAs continued to rise this past week as a result of increased rainfall. Stages in WCA-1 are relatively high for this time of the year, but within Zone A-2. The higher position of WCA-1 is deliberate and based on the request of Refuge staff to achieve a stage between 17 and 17.5 feet NGVD by the second half of October. WCA-2A and WCA-3A stages are both in Zone A of their respective regulation schedules and relatively high for this time of the year. Given the stages in the WCAs, USACE and District scientists have determined that Lake Okeechobee releases to the WCAs will generate adverse environmental impacts. Therefore, USACE has directed the SFWMD to discontinue maximum practicable Lake Okeechobee regulatory releases south to all the WCAs.

Salinity in Florida Bay continue to be in the high range. District scientists noted that Florida Bay needs additional fresh water flows to reduce salinities that benefit the bay's ecosystems and to raise the nearshore wetland stages.

2008 LORS Release Guidance (Part D): The outcome from Part D of the 2008 LORS release guidance is: "S-79 up to 3,000 cfs and S-80 up to 1,170 cfs". The lake stage remains in the Low Sub-band, close to the line separating the lower and mid thirds of the Low Sud-band. Compared to last week, the release guidance is recommending an increase in releases, generated mainly by the multiseasonal outlook transitioning from the normal to the wet category. Consistent with the 2007 SEIS analysis of the selected plan and the 2008 Water Control Plan language on page 7-15, target releases should be limited to 2,000 cfs at S-79 and 730 cfs at S-80 if the stage is in lower third of the Low Sub-

band, and 2,500 cfs at S-79 and 950 cfs at S-80 for the stage in the middle third. For this week the SFWMD is recommending target releases up to 1,500 cfs at S-79 and no flows at S-80.

For the St. Lucie Estuary, SFWMD estuary scientists suggest that mean monthly fresh water inflows exceeding 2,000 cfs (from all sources including flows from S-80, S-49, S-97, Ten Mile Creek and the tidal basin) will result in harmful salinity conditions for oyster populations near the US1 Bridge. Mean monthly flows exceeding 3,000 cfs from all sources will cause damage to seagrasses in the vicinity of the St. Lucie Inlet. Over the past week flows to the St. Lucie Estuary from S-80 averaged 523 cfs and from all other sources averaged 1,678 cfs. Based on current conditions, there is no ecological benefit associated with additional inflows from Lake Okeechobee.

For the Caloosahatchee Estuary, SFWMD estuary scientists suggest that mean monthly flows measured at S-79 that exceed 1,500 cfs will result in harmful salinity conditions for oysters living in the vicinity of the Cape Coral Bridge. At mean monthly flows exceeding 2,800 cfs, salinity in Iona Cove will become low enough to cause mortality of shoal grass. At slightly higher flows (3,000 cfs) oysters in this area will be impacted by low salinity. Mean monthly flows of 4,500 cfs will adversely impact seagrasses in San Carlos Bay. Flow at S-79 averaged 2,221 cfs over the past week, with small releases (38 cfs) from Lake O. Over the past month, S-79 total flows averaged 2,063 cfs (11% from Lake O), which is above the 1,500 cfs threshold for oysters. Based on current conditions, there is no ecological benefit associated with additional inflows from Lake Okeechobee.

Weather and Climate

Rainfall during the past week totaled 2.61 inches district wide (through 7 a.m. September 23rd). Lake Okeechobee received 3.14 inches of rain during the past 7-days. District-wide rainfall during the past 30 days totaled 7.46 inches (106% of average). During the past week rainfall recorded for the Upper and Lower Kissimmee Basins was 2.65 and 3.74 inches, respectively. For the past 30 days the Upper Basin received 114% of average rainfall, while the lower basin received 128% of average rainfall.

The SFWMD weather forecast for the upcoming two weeks is above average rainfall. The available (18-September) Climate Prediction Center (CPC) outlook for October indicates equal chances of below-normal, normal and above-normal rainfall for central and southern Florida. The available (18-September) longer range CPC outlook for all the three-month windows through April 2015 indicate increased chances of above-normal rainfall for central and southern Florida.

Current Conditions and Operations

The September 23rd, 2014 Lake Okeechobee stage (reported by the USACE on September 22nd) was 14.75 feet NGVD, 0.19 feet higher than last week. The Lake stage is about 0.2 feet higher than a month ago and is about 1.0 feet lower than one year ago. The September 23rd stage was about 0.06 feet above the historical average for this date and the Lake stage remains in the lower third of the Low Sub-band.

Daily release rates at the Lake structures, averaged for the week ending September 22nd, were estimated at 38 cfs at S-77 and 0.0 cfs S-308. At the tidal structures, average daily discharges were about 2,183 cfs at S-79 and about 523 cfs at S-80. The discharges at S-79 were almost completely made of local basin runoff produced from recent rainfall. Average release rates during the past 7-days may differ from the target because this 7-day averaging period differs from the implementation period. The current S-79 7-day pulse release averaging 650cfs will end on September 26th, 0700 hours.

Compared to previous weeks, for the past week the SFWMD had less opportunity to discharge Lake Okeechobee regulatory releases south. Operations to send Lake Okeechobee regulatory releases south were:

- Releases through S-351 and S-352 were very limited.
- Releases through S-354 to STA 3/4, for treatment before being discharged to WCA-3A, took place 5 out of 7 days.

Water Conservation Area operations are summarized as follows:

- WCA-1: Stage is increasing and around the middle of the A-2 zone which puts the WCA-1 stage above the 10% upper decile elevation for this time of the year. The S10 structures are closed and S-39 is being used as much as possible to bring and maintain WCA-1 canal stages lower than the marsh.

- WCA-2A: Stage is about 1.1 feet above the bottom of Zone A (top zone) and rising, at the 10% upper decile elevation for this time of the year. Discharges from WCA-2A via the S-11s have been gradually increased by USACE and S-38 discharges continue to help manage high stages in WCA-2A.
- WCA-3A: Stage is 0.25 feet above the Zone A (top zone) - Zone D line, which puts the WCA-3A stage at the upper quartile stage for this time of the year. WCA-3A releases through the S12 structures are being performed with fully opened gates. S-333 releases to North East Shark River Slough were discontinued on September 12th, due to G-3273 rising above the 6.80 feet NGVD threshold and high stages in the L-29 canal. Also, since September 12th S-151 is open passing water to WCA-3B and S-31 is being used as much as possible to pass water to tide through S-26, conditional on available capacity in the C-6 canal.

SFWMD Lake Okeechobee Adaptive Protocol (AP) Release Guidance

This week the SFWMD is not applying the Lake Okeechobee Adaptive Protocol release guidance flowchart since the Lake Okeechobee stage is above the Base-flow Sub-band of the 2008 LORS. The Adaptive Protocols process is documented in the District publication Final Adaptive Protocols for Lake Okeechobee Operations (September 16th, 2010).

For additional information pertaining to operations history and past recommendations, refer to the archives of LORS-2008 Release Guidance outcomes and operational position statements at www.sfwmd.gov under the Operational Planning topic.